Infrared Scouting Camera

Ltl 5210（5MP） & Ltl 5210A（12MP）

USER'S MANUAL

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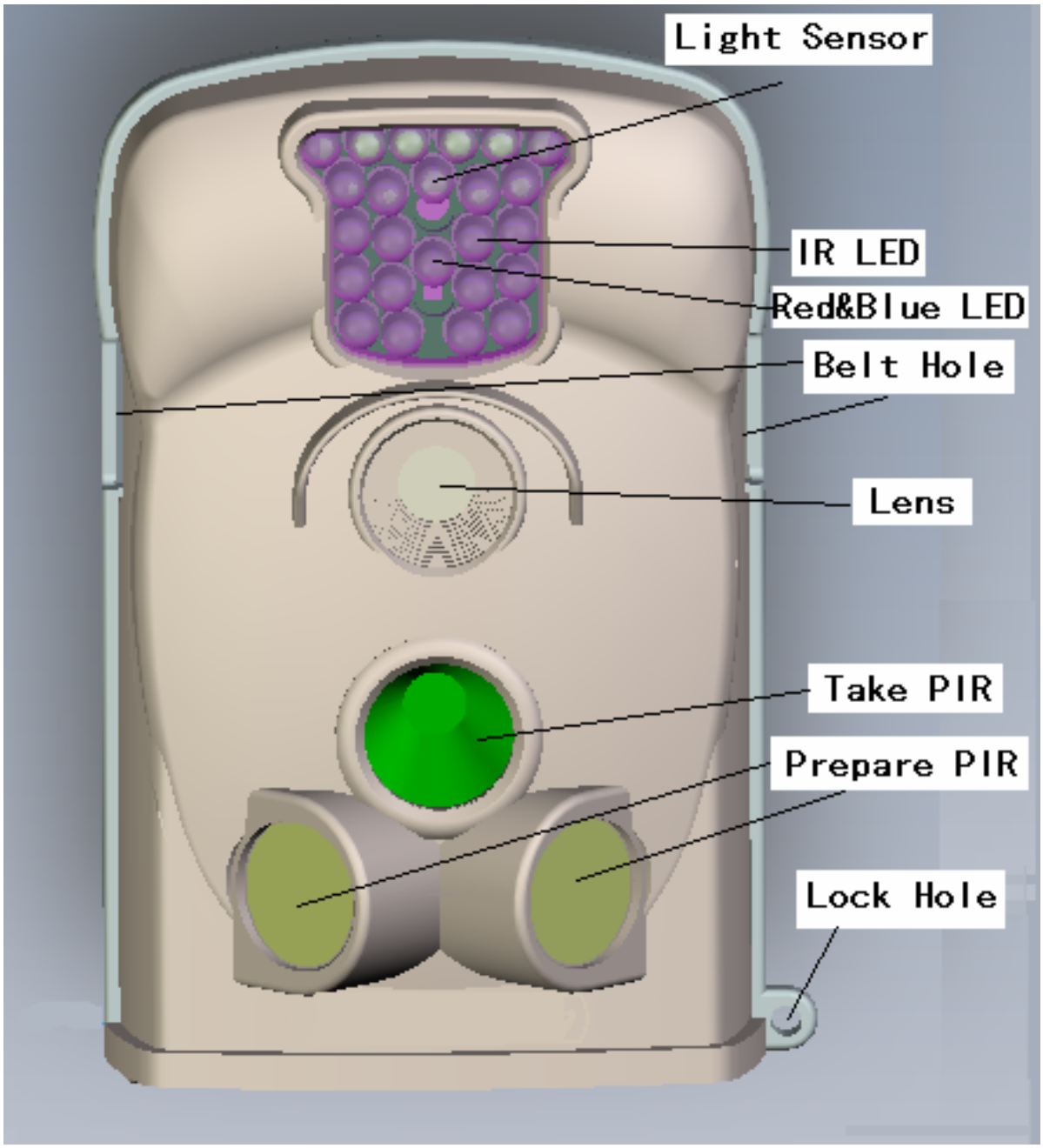
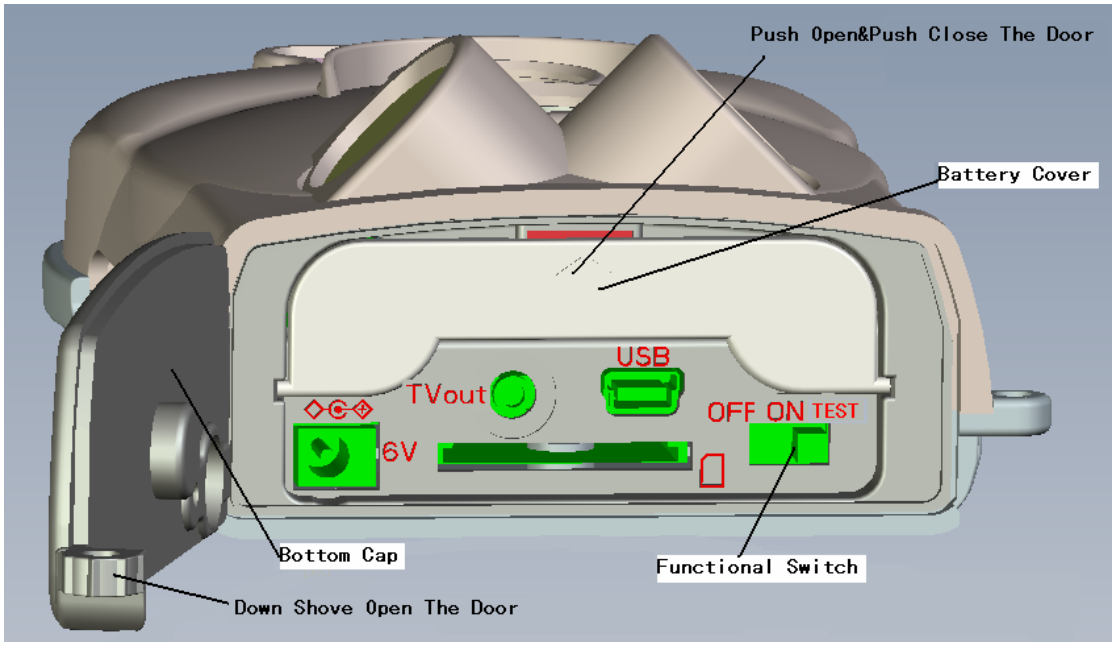
I. Quick Introduction

- **Front**



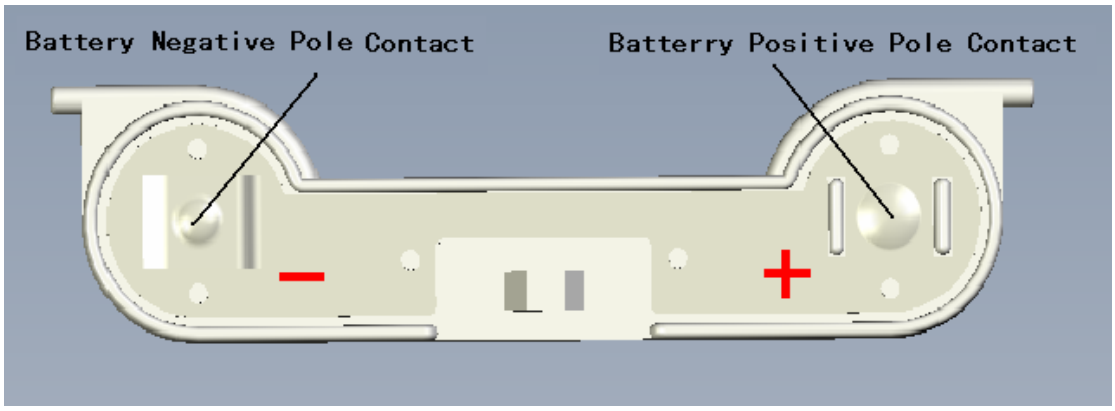
- **Bottom and Switch**

When the switch is at “OFF”, the camera is turned off. When the switch is at “ON” position in the middle, the camera is on the automatic infrared shooting mode. When the switch is moved to the TEST position, the previewing test mode is on, and you can set parameters or test different functions.



- **Battery Cover**

To supply power for the device, it is recommended to use four new high-performance alkaline AA batteries or low self-leakage NI-MH (Nickel-Metal hydride) rechargeable AA batteries.



- **Function Switch**

After putting in the batteries and a SD card (4M~16G), the device can be started. There are three positions for the switch: OFF, ON and TEST. They each correspond to three different modes of the camera. When batteries need to be changed or when the device is not in used, it should be at the OFF mode.

- **Preview Testing Mode**

Moving the switch to the TEST position would set camera to the preview testing mode. When the device is in this mode, you can manually take pictures, videotape, view existing photos and videos, and adjust the parameters just like using an ordinary camera. You can also test the PIR (Pyroelectric Infrared) function by the following operations: first, make sure the camera is in preview test mode by looking at the position of the switch, and then, in the range of 3 to 20 meters (10 to 65 feet), walk slowly back and forth along the direction that is exactly vertical to the camera lens. If the red LED indicator light flashes, it shows that the position can be sensed by “take PIR”, and if the blue LED indicator light flashes, it shows

that the position can be sensed by the “prepare PIR” on the left and right.

There are three scenarios in the preview testing mode, and they are: 1) the preview mode, where you can see the scenes directly in front of the camera lens from the TFT LCD screen or the TV, 2) the setting mode, where the menu is shown, and 3) the playback mode, where you can view existing photos and videos that are stored in SD card from the TFT LCD screen or the TV. The camera automatically enters into the preview mode when it is first set in the preview testing mode.

- ## Automatic Infrared Shooting Mode

Moving the switch to the ON position would set the device in the Automatic Infrared Shooting Mode. There is a waiting time of about 10 seconds before the system adjusts to this mode, and during this period the red LED indicator light will keep flashing. After that the light extinguishes and the camera can start taking pictures by infrared inducement. Once the device is in this mode, there would be no need for any manual operations, and the camera will function automatically by taking pictures or videotaping the subjects such as animals, persons, or cars that enters a certain range.

The time interval, the number of photo or the record time can be set before the camera is put to work. The camera will automatically turn on when subjects (anmials, persons or cars) enters the area covered by the “prepare PIR” on the left and right sides. Then it will take pictures or start videotaping once the subjects are in the range of the “take PIR”. If the subjects enter the range of the “take PIR” directly, the camera will be in operation immediately. If the subjects leave the range of the “prepare PIR”, the camera would automatically shut down after a while.

Prepare PIR the advantages: General infrared camera to save power, usually only PIR part is working, photographic part is closed, when PIR detect the animals, it begin opens photographic parts supply, Then from the start photographic parts power to start take photo needs certain time (this time is different, generally 1 ~ 5 seconds), Our Ltl-5210 camera need 1 second. When an animal is fast across, will pass over the camera’s shoot range, which will have to take a photograph of no animal.

Our preparation PIR can solve the problem.Our camera have prepared PIR, its scope of induction is 100-120° Angle, a very wide range of induction, far outweigh 50 ° Angle of the camera lens, when the animals into the prepared PIR is detecting range, photographic parts began power on and ready to shoot after 1 second, if animals go in “take PIR” range (less than the camera lens Angle), will soon, this time is almost negligible, rapidly across the animal able to photograph.

II. Advanced Operations

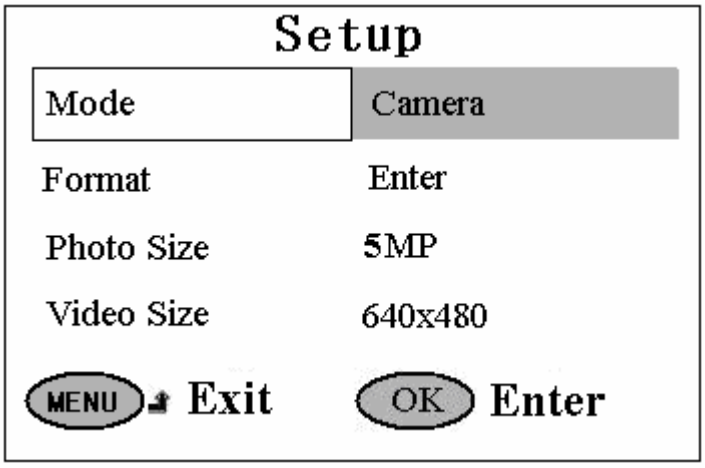
Compared with ordinary cameras, *Ltl 5210* has more professional functions. The user can change the settings according to specific needs under the preview test mode.

- **Keypad Operation**

The 6 keys from left to right are: "MENU" , "left", "Up", "Down", "right" and "OK". The keys symbolize "SHOT" and "REPLAY", and they are shortcut keys. When used under the preview mode, will lead you to video condition, leads to photo condition, and when the key "SHOT" is pressed, a photo or video is take, and "REPLAY" is pressed, photos and videos can be reviewed.

- **Menu Functions**

You can access the menu of functions by pressing the "MENU" key. Press 、 to move through each option, and press 、 to change the settings. When done, press the button to confirm the changes made to the settings. and press "MENU" to exit the menu.



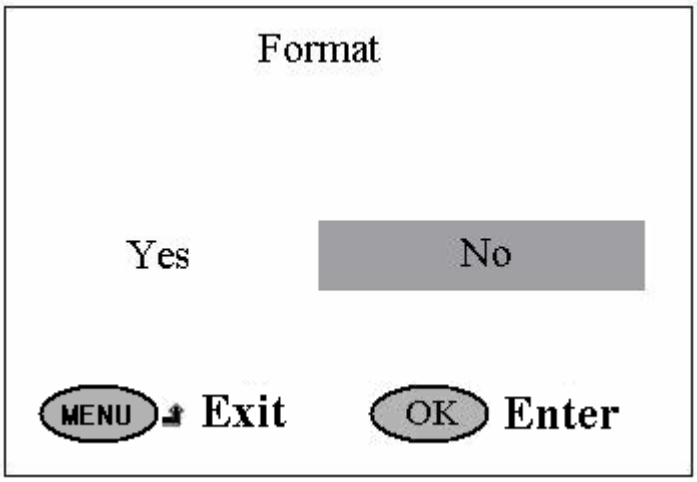
- **Camera Mode**

  There are two modes（5MP） or three modes（12MP）for the camera, the "Camera" mode, and the "Video" mode,and "Camera+ Video" for 12MP .

  Press ◀ 、 ▶ to alternate between these two or three modes and press"OK" to confirm. Press "MENU" to exit the menu. "Camera+ Video" mode can first take photo and consequential take video.

- **Format SD Card**

  Use the ▲ and ▼ keys to find the option "Format" in the function menu, and press "OK" to enter the screen below.



  Press ◀ and ▶ to shift between "Yes" and "No", press "OK" to confirm, and press "MENU" to exit the screen. **Please note that if you choose "Yes" and press "OK", all information in the SD card will be deleted.**

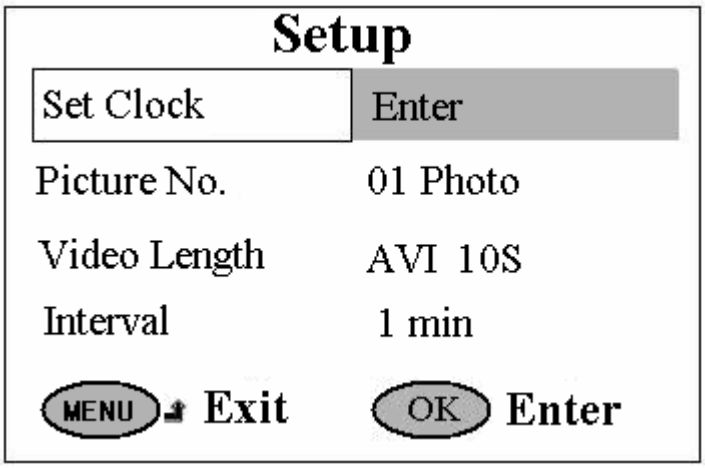
- **Changing Photo Resolution**

  Press ▲ and ▼ to find “Photo Size” in the menu, and then use ◀ and ▶ to shift between “3MP”(or “12MP”) and “5MP”. Then press “OK” to confirm or press “MENU” to exit.

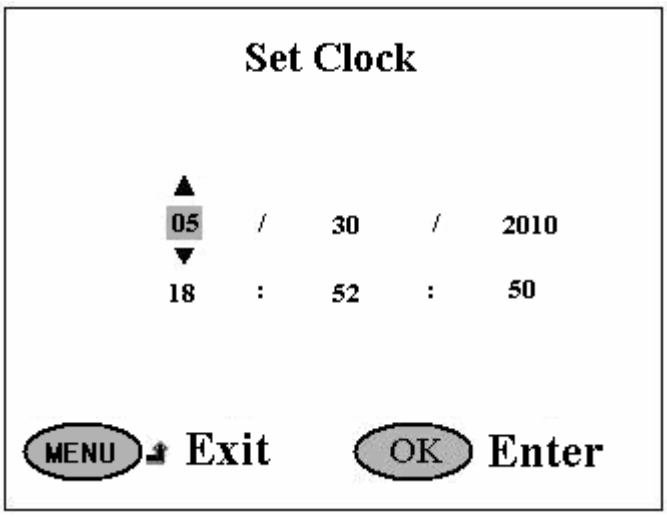
- **Setting Video Resolution**

  Use ▲ and ▼ to find “Video Size”， then choose between “640X480” and “320X240”. Press “OK” to confirm, or press“MENU” to exit.

- **Date and Time**



Use ▲ and ▼ to find the “Set Clock” screen， and press “OK” to access the “Set Clock” submenu. Refer to the following photo:



Use ◀ and ▶ to switch among “month”, “day”, “year”, “hour”, “minute” and “second”. Then use ▲ and ▼ to set the date and time, then press “OK” to confirm or “MENU” to exit.

- **Consecutive Photographing**

When the automatic photographing function under the Automatic Infrared Shooting Mode is activitated, you need to set the number of pictures you want the camera to take automatically. When this parameter is set at1~3, it means one to three photos will be taken every time the camera is triggered. Press ▲ and ▼ to find “Picture NO.”, and use ◀ and ▶ to view “01 Photo”, “02 Photo” or “03 Photo”.

- **Automatic Video Recording**

When this parameter is set at AVI 01S~ AVI 60S, it means the camera will automatically record a video for 1 to60 seconds every time the device is triggered. Press ▲ and ▼ to find “Video Length” in the function menu, and choose the length from the options “AVI 01S~ AVI 60S”, and then press “OK” to confirm or the “MENU” key to exit.

- **Setting the Interval of Automatic Photographing/Videotaping**

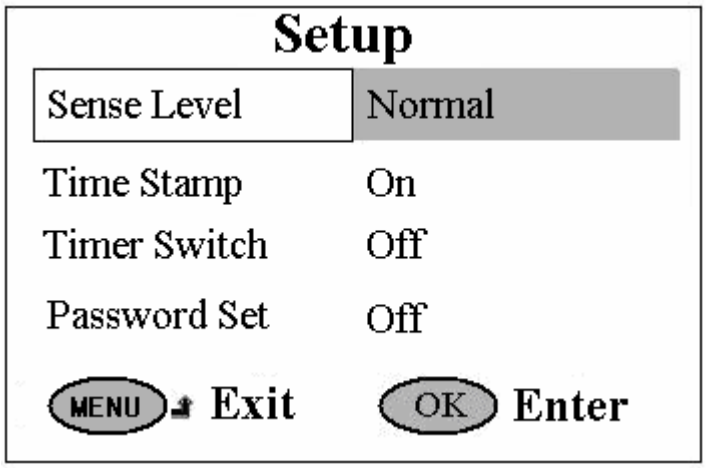
This time parameter is relevant when the camera takes pictures or shoots videos automatically under the Automatic Infrared Shooting Mode. The interval is defined as the length of time the camera will wait to restart PIR and function again after a picture is taken or a video clip is recorded. The system can only sense the subjects (animals, or persons) when the PIR is turned on.
NOTE: Under the Automatic Infrared Shooting Mode, LED will first flash for about 10 seconds, and then start PIR sensing. At that moment the camera will be triggered and takes pictures if people or animals come into the induction area.

The interval parameter has120 values from 0 to 59 seconds and 1 to 60 minute ,

the default value is set at 1 minute.

To change this interval value, press ▲ and ▼ to find the “Interval” menu，and press ◀ and ▶ to choose a value between “01S~ 59S” and “01min~ 60min”. Press “OK” to confirm or press “MENU” to exit the screen.

- **PIR Sensitivity Adjustment**



The level of PIR sensitivity applies only to the Automatic Infrared Shooting Mode, and it shows the sensitivity level of the PIR to the objects including people and animals.

There are three options for the level of sensitivity: Low, Normal and High, and the default is Normal. The higher the number, the easier for the camera to be triggered and starts shooting pictures or recording videos. Higher sensitivity setting suits indoors and environments with little or no interference, while lower sensitivity suits outdoors and environments that are under bigger interferences. Temperature also affects the sensitivity, as higher temperature will lower the sensitivity. Thus it is recommended that a higher sensitivity level be used under high temperature.

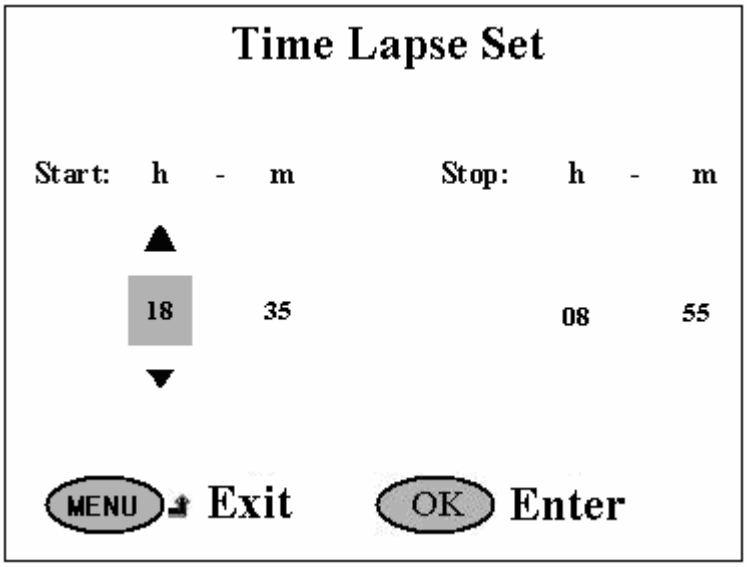
To adjust this parameter, find the “Sense Level” screen in the menu as shown in the image above and use ◀ and ▶ to choose among “Low”、“Normal” and “High”, press “OK” to confirm the changes and press “MENU” to exit.

- **Setting Time Stamps**

Time stamps are used to identify and show the time that the photos or videos are shot. When it is set “on”, the time will appear on the photos or videos, and when it is set “OFF” , no time will appear.

To change the settings of time stamps, press ▲ and ▼ to find the “Time Stamp” menu and use ◀ and ▶ to choose among “On” or “Off”, press “OK” to confirm the changes and press “MENU” to exit.

- **Setting Timer**



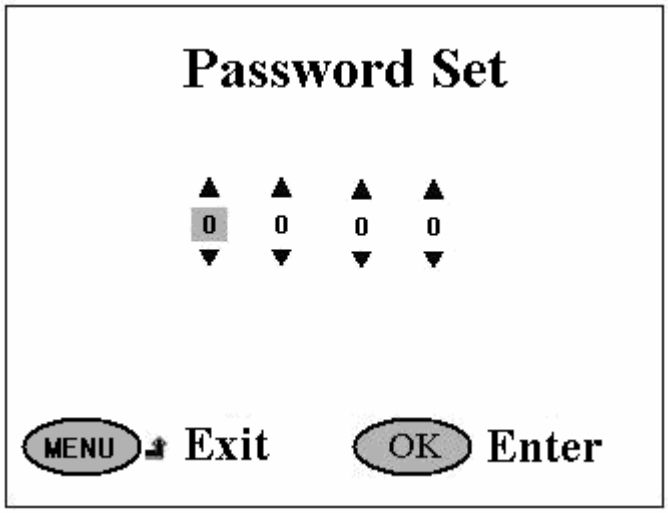
The timer will be activated under Automatic Infrared Shooting Mode, and it is used to set the camera’s working time. Inside that set time, the PIR will working and the camera will be in operation. Outside that set time, the PIR will shut down and the camera will no longer be in operation. After set “On”, the device will work every day during the same period, for example, if the starting time is set at 18:35 and the ending time at 8:25, then the camera will automatically sense through PIR and functions from 18:35 today to 8:25 the next day, and outside that time, the camera will be turned off. If you find the camera is not working accordingly, please make sure if the time is set at the “On” position.

The “Timer Switch” option can be found in the functions menu. Choose between the “On” mode and the “OFF” mode, and when it is in turn on, set the timer be changing the starting “hour（h）”, “minute（m）” and the ending “hour（h）” and “minute（m）”. Select “OK” to confirm changes, or press “MENU” to exit the screen.

- **System Password**

If the system password is set, the device can be protected from non-users, since it cannot enter the Preview Test mode without the password and thus cannot be used.

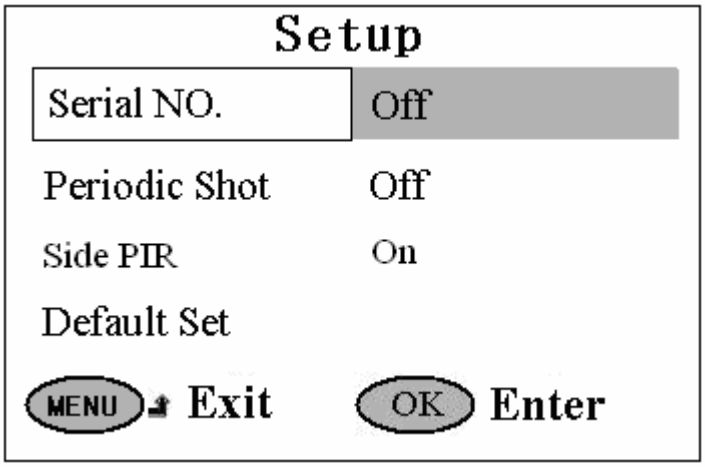
Use ▲ and ▼ to find the “Password Set” option and press ◀ and ▶ to choose either “On” or “Off”. Once the function is turned on, press “OK” and set the password. Refer to the image below.



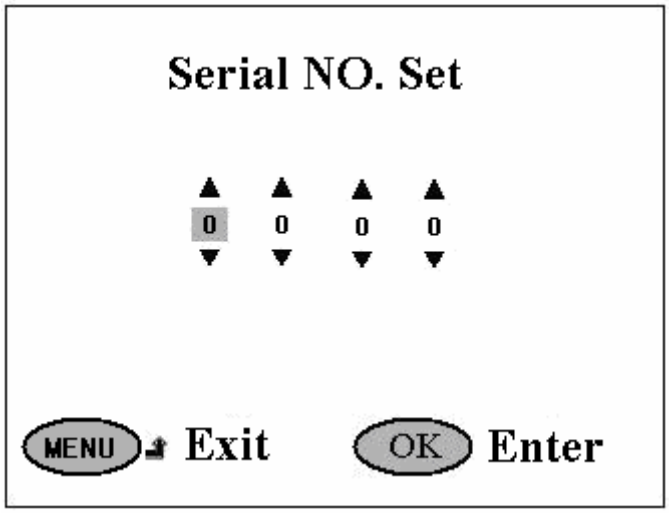
Use ◀ and ▶ to alternate between each data slot, and use ▲ and ▼ to change the number. Select “OK” to confirm the changes, and press “MENU” to exit.

- **Setting Machine Serial Number**

Setting a serial number can print to the photo ,point out the photo where is it filming. When turned on, the serial number will automatically appear with the photo’s time stamp.



Press ▲ and ▼ to find “Serial NO.” in the functions menu, press ◀ and ▶ to shift between “On” and “Off”. If the “On” is selected, then press “OK” to enter “Serial NO Set” as shown below.

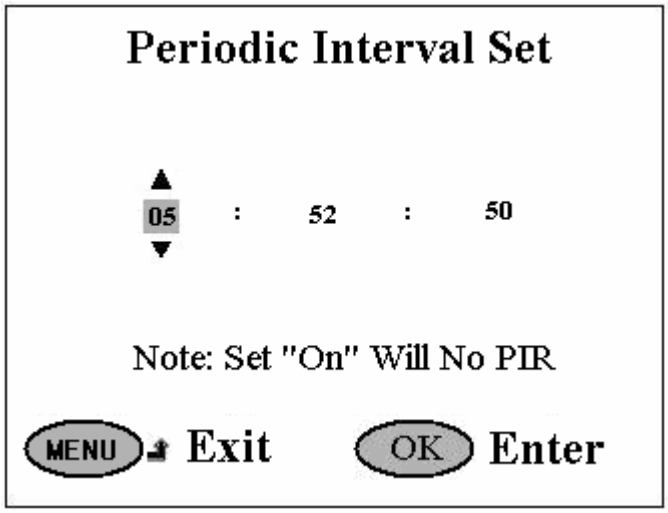


Use ◀ and ▶ to alternate between each slot, and then press ▲ and ▼ to set the digits and 26 alphabets. Select “OK” to confirm changes and press “MENU” to exit.

- **Automatic Periodic Shooting**

  When the periodic shooting function is turned on, the camera will automatically take pictures or shoot videos according to a set interval, regardless of whether or not the PIR has sensed the subjects. The number of pictures taken or the length of the video recorded can be set following previous instructions, and the timer is still in effect in this mode.

NOTE: When the Automatic Periodic Shooting Mode is on, the PIR will be turned off.



Use ◀ and ▶ to find the “Periodic Interval Set” option in the functions menu, and use ▲ and ▼ to select either “ON” or “OFF”. Select “OK” to confirm changes. When “ON” is chosen, the system will enter the submenu that allows you to set the interval. Refer to the graph below, use ◀ and ▶ to alternate between each slot, and then press ▲ and ▼ to set the time. Select “OK” to confirm changes and press “MENU” to exit.

- **Seting prepare PIR On or Off**

  Unless there is interference, Usually should set ON, This can accelerate the speed of start-up.

  Press ▲ and ▼ to find “Side PIR” in the functions menu，Press ◀ and ▶ to shift between “On” and “Off”, press “OK” to confirm, and press “MENU” to exit the screen.

  Note:Set Off the prepare PIR will loss of function.

- **Restore Default Settings**

  Press ▲ and ▼ to find “Default Set” in the functions menu，then select “OK” to set all parameters back to their default factory. The device will automatically return to the Preview TEST mode.

- **Photos/Videos Playback and Deletion**

Under the Preview TEST mode, pressing “OK” will display the last photos or videos. Use ▲ and ▼ to playback the photos or video clips. If it is a video clip, you can press ▶（SHOT）to play, then press ▶（SHOT）to stop playing. When in 12MP camera, Photos can 16 times zoom playback,press ◀ zoom in and press ▶ zoom out,press ▲ view right photo and press ▼ view left photo;press ▲ long time view up and press ▼ long time view down.

In this playback mode, pressing “MENU” will enter into the deletion menu, in which you have the options to delete the current picture/video or to delete all. Select “OK” and then “Yes” to confirm deleting the file, or select “No” to keep it.

- **File System**

  When a SD card that is smaller than 1 GB is used, the device supports the file system format of FAT12 and FAT16 .it supports FAT32 with a SD card larger than 2 G. The maximum capacity of SD card the camera supports is 16G.

- **File Format**

  The camera uses a SD card to store all photos and videos under the folder \DCIM\100IMAGE. Photos and videos will be named according to the sequence of shooting. Examples include IMAG0001.JPG or IMAG0001.AVI. The suffixes distinguish between a photo (with suffix jpg) and a video (with suffix avi).

  Note: **When connected to the TV under the switch “On” mode (Automatic Infrared Shooting Mode), the trigger time will be slowed.**

III. Driver Installation for USB

The camera uses USB2.0 High Speed data transmission. If your computer doesn’t recognize mass storage, for example, the operation system is Windows 98 please download and install the appropriate driver that supports USB2.0 High Speed.

IV. Post-sales Service

We provide two year of free maintenance. If your product is out of our service period and is manually damaged through wrong operations, we can still provide paid services including parts replacements and repair.

Note: **The factory reserves the right to update products.**

V. Factory Default Settings

The parameters are usually set before leaving the factory, and their values are optimal or commonly used. These predetermined values of primary parameter are identified in the following table.

Parameter name	**Default data**	**Remark**	**others**
Mode	Camera	Photo	Video(Photo+ Video when 12MP)
Photo Size	5MP	5MP	3M Pixel(12MP)
Video Size	640×480	VGA mode	320x240
Capture No.	01 Photo	One photo each time	2 Photo, 3 Photo
Video length	AVI 10s	Video length is 10s	1-60 seconds
Interval	1 min	Trigger to trigger interval is 1minute	0-59 seconds, 1-60 minutes
Sense Level	Normal	Sensitivity	High, Low
Time Stamp	On	Time stamp on	Off
Timer Switch	Off	Time switch off	On (00:00 – 23:59)
Password Set	Off	Password set off	On
Serial NO.	Off	Serial No. off	On
Periodic Shot	Off	Periodic Interval Shot off	On(00:00 – 23:59:59)
Side PIR	On	Side PIR Set On	Off

Appendix I：Technical Specification

Type	Parameters	Ltl-5210	Ltl-5210A
Image Sensor	5 Mega Pixels Color CMOS	Yes	Yes
Maximum Pixel Size	2560x1920	Yes	Yes
Lens	F=3.1; FOV=52°; Auto IR-Cut	Yes	Yes
IR-Flashlight	65 Feet/20 Meters	Yes	Yes
TFT Display Screen	48x35.69mm (2.36");480(RGB)*234DOT; 16.7M color	Option	Yes
Operation Keypad	6 keys	Option	Yes
Memory	SD Card (8MB ~16GB)	Yes	Yes
Picture Size	5MP = 2560x1920;	And 3MP = 2048x1536	And 12MP =4000x3000
Video Size	640x480: 20fps; 320x240: 20fps	Yes	Yes
PIR Sensitivity	PIR with 3 sensitivity levels: High/Normal/Low	Yes	Yes
PIR Sensing Distance	65ft/20m（Below +25°C/+77°F at the Normal Level）	Yes	Yes
Preparation PIR Sensing Angle	Left and right light beams form an angle of 100° Each lens covers 10°(Can be set Off)	Yes	Yes
Shot PIR Sensing Angle	35°	Yes	Yes
Operation Mode	Day/Night	Yes	Yes
Trigger Time	1 Second (When using the 2G SD card)	Yes	Yes
Triggering Interval	0sec. - 60min. Programmable	Yes	Yes
Shooting Numbers	1~3	Yes	Yes
Video Length	1-60sec. Programmable	Yes	Yes
Camera+Video	First take Picture and then take Video	No	Yes
Playback Zoom In	1~16 times	No	Yes
Time Stamp	On /Off, include serial No./ tempreture and moon phase	Yes	Yes
Timer	On /Off Time Lapse Programmable	Yes	Yes
Password	4 Protection Numbers	Option	Yes
Device Serial No.	4 Digits and 26 alphabet Set by Yourself	Yes	Yes
Periodic Shot	1 Second~24Hours	Yes	Yes
Power Supply	4xAA,Can add to 8XAA(Need the additional battery box)	Yes	Yes
Stand-by Current	0.4mA	Yes	Yes
Stand-by Time	3～6 Months（4xAA～8XAA）	Yes	Yes
Auto Power Off	Auto power off in 2 minutes while no keypad controlling	Yes	Yes
Power Consumption	150mA (+500mA when IR LED lights up)	Yes	Yes
Low Battery Alarm	4.2~4.3V	Yes	Yes
Interface	TV out (NTSC); USB; SD Card Holder; 6V DC External	Yes	Yes
Fix Method	Belt, Tripod Nail	Yes	Yes
Waterproof	IP54	Yes	Yes
Operation Temperature	-30 ~+70°C/-22~+158°F	Yes	Yes
Operation Humidity	5% ~ 95%	Yes	Yes
Certificate	FCC & CE & RoHS	Yes	Yes

Option: In normal is "Yes". If “No” the parameters will set by the PC. Can only choose "Yes" or "No" in all.

Appendix II：Parts list

Part name	Quantity
Digital camera	1
Addition battery box	1
TV AV IN cable	1
USB cable	1
Belt	1
External DC cable(optional)	1
Manual	1
Guarantee card	1

Appendix III: Additional battery box installation instructions

Force into
and lock the buckle